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A Suspicion of Architectonic in Kant's *Transition* Project

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Introduction

The *Transition from Metaphysical Foundations of Natural Science to Physics* found at the heart of Immanuel Kant's last, unfinished work, the so-called *Opus postumum*,¹ has prompted some serious interrogations in recent years. If ever the Saul Bellow quote that, 'I am a great believer in the power of an unfinished work to keep you alive,' were an apt description, it is surely in reference to *Opus postumum*. Kant is truly kept alive in the innovative research designed to unravel the mysterious text. However, there is still much to be done and in this essay I approach *Opus postumum* from an angle I feel has not been systematically explored in the literature.

I shall first introduce the *Transition* as comprising two 'tasks': one oriented toward a reformulation of *Metaphysical Foundations of Natural Science* (1786) and one toward a methodological transition from metaphysics of nature to physics. I focus on the latter task in this essay.² We must note, however, that there is not a sharp line drawn between these two tasks – Kant often skips from one to the other without warning – but we can begin to trace the differences by focusing on changes of terminology and tone throughout *Opus postumum*. Thus, when Kant drafts sections concerning the critical role of the transition, the meaning of physics

¹ I cite passages in *Opus postumum* according to volume and page number in *Kant's gesammelte Schriften*, edited by the Prussian (now German) Academy of Sciences (1900–), followed by the page number in the English translation: Kant (1998). I cite all of Kant's other works according to volume and page number in the Academy edition also, except *Critique of Pure Reason*, which is quoted according to first and second edition pagination (as is customary). Unless otherwise stated – by marking 't.m' for 'translation modified' or 'm.t' for 'my translation' – I follow the translations of the Cambridge Edition of the Works of Immanuel Kant. Abbreviations: 'C', *Correspondence*; 'CJ', *Critique of Judgement*; 'CPR', *Critique of Pure Reason*; 'LM', *Lectures on Metaphysics*; 'MF', *Metaphysical Foundations of Natural Science*; 'OP', *Opus postumum*; 'P', *Prolegomena to Any Future Metaphysics*; 'PG', *Physical Geography*; 'PM', *Physical Monadology*

² Thus, such concepts as 'force,' 'matter,' 'cohesion,' 'ether,' and 'dynamics,' which regularly feature in discussions of *Opus postumum* will be viewed as constituting the side of the *Transition* which reformulates the content of *Metaphysical Foundations* and will accordingly be suspended in favour of the architectonic thematic. By proceeding in this way, I argue we gain a more macroscopic view of Kant's intention, enabling us to contextualize the reformulation of *Metaphysical Foundations* and perhaps provide some clues as to why Kant felt it necessary to modify the foundations of his physical theory in the first place.

and systematic unity, we can ascertain that he is operating within a methodological architectonic register, that is, in a context concerning the overarching structural rules of investigation within subject-areas. If this proves true, we may conjecture a suspicion: a problematic (albeit consistent) arc is formed between the methodological figurations found in *Architectonic of Pure Reason*³ and the methodological fragments found in the *Transition*. That is to say, how Kant divides metaphysics and physics in the *Architectonic* may be related to how he divides them in *Transition*. The initial question, then, which guides this investigation is: what relationship is there between metaphysics and physics in (1) the *Architectonic of Pure Reason* and (2) the *Transition*, and do (1) and (2) relate to each other in this regard?

I conclude the essay by suggesting that a transition of the concept of architectonic itself emerges in answering these questions. This suggestion is premised on showing how the methodological perspectives in the critical edifice are unclear as to the systematic division of metaphysics and physics, nor do they allow for the coalescence of different disciplines. In contrast to this, what is at stake in the *Transition* is the opposite, namely, how we arrive at, account for and create the possibility of systematic division and methodological transition. Hence, the architectonic in the *Transition* is conceived of as a fluid building-site upon which disciplines share concepts and slide into one another systematically. This indicates a changed understanding of architectonic in Kant's corpus.

A note on the method of this essay. I focus on the connections and disjunctions between *Transition* and Kant's wider architectonic concerns in parts of his corpus. Accordingly, where there are strong continuities with or strong departures from the Kant we believe we know, I adopt the perspective that these points should be traced through to their conclusion. My choice of texts depends upon how far or close they seem to the text of *Transition*. I try to avoid reading the pre-critical and critical edifice into the *Transition*, opting instead to pull out a series of

³ CPR A832-51/B860-79

complications of Kant's edifices (especially his understanding of metaphysics and physics) from the *Transition*. Where a text seems equivocal to the architectonic of *Transition* I have side-lined it, opting only for the texts which harbour the most striking convergences and divergencies. This sometimes requires what could be considered 'unorthodox' reconstructions of the *Transition*. That is, not reconstruction in the sense of repeating Kant's system or 'ironing it out,' but striving toward toward the core of his thinking⁴ – no matter how far from standard readings this takes us – and thinking *with* Kant rather than *about* him. Owing to its unfinished state, *Opus postumum* is particularly conducive to this methodology. Moreover, we gain the hope of a unique, unexplored trajectory through Kant's corpus, opening the way for new philosophical reflections about the critical edifice and for the chance to sculpt a Kant we have not yet come to fully know.

1. The Basis of a Suspicion

Übergang is a term repeated throughout *Opus postumum* but scholars are still not in agreement as to what Kant means by it. In its most skeletal form it means transition, or a bridge from one species of cognition to another. This skeletal concept is not entirely alien to the critical edifice; we can, for example, already see a 'secret transition' between sensibility and reason – a hidden transition between the faculties – in the first *Critique*.⁵ Howard Caygill rationalizes this argument in the following way:

if the demarcations between the faculties are followed rigorously, if the unities of reason and the understanding are generically different, then experience and the process of unification becomes problematic. It is thus necessary, already in the first *Critique*, to show that the

⁴ As in the Deleuzian- Žižekian formula: 'Let us take a great philosopher like Kant. There are two modes to repeat him. Either one sticks to his letter and further elaborates or changes his system...or one tries to regain the creative impulse that Kant himself betrayed in the actualization of his system (i.e., to connect to what was already "in Kant more than Kant himself," more than his explicit system, its excessive core).' Žižek (2012, 11)

⁵ Caygill (2007, 19)

demarcations between the faculties are bridgeable, or in the language of the *Opus postumum*, that it is possible for there to be a transition between them.⁶

Kant never fully acknowledges these ‘bridgeable’ demarcations in the first *Critique*, instead burying them in the subterranean depths of the work. We also see the concept of transition arising in the third *Critique* in the context of the passage from theoretical to practical philosophy.

There must, therefore, be a ground of the *unity* of the supersensible that lies at the basis of nature, with what the concept of freedom contains in a practical way, and although the concept of this ground neither theoretically nor practically attains to a knowledge of it, and so has no peculiar realm of its own, still it renders possible the transition from the mode of thought according to the principles of the one to that according to the principles of the other.⁷

That is to say, there is a movement between the two fundamental axes which underpin Kant’s entire corpus: nature and morality. Although this discussion is significant, the concept of the transition between metaphysics and physics remains undiscussed. Moreover, Kant does not consider *what* would be peculiar to this transition in a methodological sense.⁸

The concept of transition found in *Opus postumum* is altogether different. Indeed, in the *Transition* project, the methodological transition from metaphysics to physics is discussed; we could even say that in *Opus postumum* the concept bubbles to the surface, sometimes

⁶ Caygill (2007, 19)

⁷ CJ 5:176

⁸ I thank the anonymous report from *Angelaki* for pointing out this connection. They question why I left out the reflections on transition found in *Critique of Judgement*, which is an excellent point. The reason, as I have stated in the main body of text, is that the notion of transition in the third *Critique* is explicitly tied to the transition from theoretical to practical philosophy. Although this passage is perhaps one of the greatest questions in Kant scholarship, this is an entirely different problematic to the one I attempt to raise here. Another reason for its absence is the already huge interpretive weight placed on *Critique of Judgement* as well as more recently the *Critique of Practical Reason* in the *Opus postumum* literature. For the former, see Friedman (1994, 242-64), Förster, (2000) and for the latter see Thorndike (2018).

violently.⁹ In this less obscure context Kant is direct about what he means by transition, expounding upon his more secret use of the term in the first and third *Critiques*. Throughout the various mutations of *Opus postumum* Kant rephrases and repeats this meaning endlessly. Although, as Bryan Wesley Hall argues, there is a transformative arch to these repetitions (Hall locates three different incarnations in the later fascicles),¹⁰ there is a basic outline which remains somewhat stable in the early fascicles. This is the bridge from a priori metaphysics of nature to empirical physics. As much as Kant's last work continually weaves and shifts through our fingers, the motif of these two sides blurring into a '*philosophia naturalis*,'¹¹ or 'natural science' remains consistent throughout the early fascicles and this warrants further investigation.

We get a gloss of this motif in the preface of *Metaphysical Foundations of Natural Science* published in 1786, wherein Kant demarks one part of natural science as pure and the other as applied, aligning the former with a priori cognition and the latter with empirical cognition.¹² Kant remarks, 'proper science, and above all proper natural science requires a pure part lying at the basis of the empirical part, and resting on a priori cognition of natural things.'¹³ Divisions between 'pure' and 'mixed,' or 'simple' and 'composite' were quite common in eighteenth century speculative metaphysics so it is no surprise that Kant reflects this. It is well known, for example, that throughout his lecturing career Kant used Baumgarten's *Metaphysica* as a textbook, which administers such divisions in relation to 'internal being.'¹⁴ But unique to the Kant of *Metaphysical Foundations* is a nuanced arrangement of the possibility of natural

⁹ To pick one example, in fascicle V, between OP 21:523; 35 and 21:524; 36, Kant immediately skips from an intense discussion of heat and caloric to a 'Preface' in which he discusses the methodological meaning of 'science of nature,' 'transition,' and the structural role of *Metaphysical Foundations*.

¹⁰ Hall (2017, 12)

¹¹ 'But there needs to be a transition from the metaphysical foundations of natural science to physics for science of nature to become science of reason (*philosophia naturalis*).' OP 21:474-5; 39 (t.m). Sometimes Kant also refers to this as *Scientia naturalis*. For an enlightening discussion on this topic see Michael Friedman's introduction to the Cambridge Edition of *Metaphysical Foundations of Natural Science*.

¹² MF 4:468-9

¹³ MF 4:470

¹⁴ See Baumgarten, (2017, Chap. II, Sect. VIII)

science, the metaphysics of nature, their divisions and interconnections, and a whole-hearted attempt to provide foundations to Newtonian natural philosophy. For Kant, natural science indexes a metaphysics of nature since it attempts to understand the necessity found in the existence of things, a necessity which cannot be given in experience. Metaphysics of nature is accordingly condensed to purely a priori inquiry: ‘Now [metaphysics of nature] must always contain solely principles that are not empirical (for precisely this reason it bears the name of a metaphysics)’.¹⁵ Kant further divides the metaphysics of nature into a part which deals with general concepts of nature – the ‘transcendental’ – and a part which deals with the particular nature of a thing – ‘special’ metaphysics, or even at certain points, simply ‘physics’.¹⁶

There are several ways to approach these formulations, but it is generally understood that the transcendental side of the metaphysics of nature is the *Critique of Pure Reason*, whilst the special metaphysical side is the *Metaphysical Foundations*.¹⁷ There is, however, a problem with such a reading on a few levels. First, Kant references a future work entitled *Metaphysics of Nature* in both the first and second editions of the *Critique of Pure Reason*.¹⁸ This indicates that Kant had a work *other* than the first *Critique* in mind when citing metaphysics of nature and both of its sides. Indeed, we must assume that the first *Critique* is the transcendental *propaedeutic* to such a work instead of the work itself, as Kant himself indicates:

Such a system of pure (speculative) reason I hope myself to deliver under the title *Metaphysics of Nature*, which will be not half so extensive but will be incomparably richer in content than this critique, which had first to display the sources and conditions of its possibility, and needed to clear and level a ground that was completely overgrown.¹⁹

¹⁵ MF 4:469

¹⁶ MF 4:470

¹⁷ See Friedman (2015, 588)

¹⁸ CPR Axxxi and Bxlili

¹⁹ CPR Axxi. I am in agreement with Förster (2000, 53-54) on this point. Also see OP 22:240; 56, where Kant claims that the *Transition* is not a propaedeutic: ‘The transition is not merely a propaedeutic, for that would be an unstable concept, and concerns only the subjective side of cognition.’ (t.m)

Second, Kant recognizes the need to actively separate metaphysics of nature and special metaphysics as a methodological issue in *Metaphysical Foundations*:

And because this pure part is wholly different, in regard to its principles, from those that are merely empirical, it is also of the greatest utility to expound this part as far as possible in its entirety, separated and wholly unmixed with the other part; indeed, in accordance with the nature of the case it is an unavoidable duty with respect to method.²⁰

As Michael Friedman puts it, ‘The line between metaphysical questions...and physical questions...is therefore sharply drawn.’²¹ But *Metaphysical Foundations* goes on to discuss problems of a physical character, such as kinematics (phoronomy) and dynamics, blended with a transcendental methodology. In other words, the two sides seem inextricably linked under the rubric of natural science. The problem is that Kant seems to assume that natural science, for it to be natural science *proper*, inherently unifies the special and transcendental elements of the metaphysics of nature without indicating *how* the line is drawn methodologically. In the wording of the Preface, for example, Kant’s tone is one of primary unification: ‘Properly so-called natural science presupposes, *in the first place*, metaphysics of nature.’²² What can this ‘in the first place’ mean other than, ‘to begin with,’ ‘without labouring,’ ‘naturally’?

This discussion intersects different debates on the relation between *Metaphysical Foundations* and the *Transition*. There are many nuances to each commentator’s position, far too many to retrace all of them in detail here, but there is a general consensus that on some level the *Transition* project is in dialogue with *Metaphysical Foundations*.²³ One of the main

²⁰ MF 4:469

²¹ Friedman (1994, 216)

²² MF 4:469 (italics added)

²³ In particular see Tuschling (1989, 194-5) and (1971, 56-61), Friedman (1994, 237; 222-42), Förster (2000, 61-66) and Hall (2015, 10)

issues highlighted is the ‘circularity problem’ wherein Kant is at pains to escape the paradoxical logic exhibited in *Metaphysical Foundations* that attractive force is relative to the density of matter, but that the density of matter is composed by original attractive force.²⁴ This is mentioned in an oft-quoted letter Kant sent to Jacob Sigismund Beck in 1792:

I think the solution to this problem lies in this: the attraction (the universal, Newtonian attraction) is originally equal in all matter; it is only the repulsive force that varies in different kinds of matter, and this is what determines differences in density. But this solution seems to lead to a kind of circularity. I cannot see how to escape from this circularity and I must give it more thought.²⁵

Hall provides the clearest overview of the problematic: ‘Kant’s theory of density is circular since original attraction is proportional to the density of matter (or its quantity in a given volume), but the matter itself could not exist were it not for original attraction.’²⁶ The secondary literature reflects this problematic by responding in various ways: the *Transition* is a ‘correction’ (*Korrektur*) of *Metaphysical Foundations* (Tuschling), an extension of its thesis (Friedman), an attempt to go beyond it (Förster), or is a reversal of it (Hall).

I believe the circularity problem may have originally prompted Kant to begin constructing the *Transition*, but it cannot and does not explain the structural role the *Transition* plays in relation to *Metaphysical Foundations*; nor does it tell us how the *Transition* fits into the critical edifice more generally. The issue is simply that this interpretive strand does not account for the stray architectonic elements found in the *Transition*. If we start solely from the circularity problem we risk uncritically staying within Kant’s ambiguously defined ‘special

²⁴ This stems from ‘Metaphysical Foundations of Dynamics’ Proposition 5-6 (MF 4:508-12), Proposition 8 (MF 4:516-23) and the ‘General Remark to Dynamics’ (MF 4:532-5)

²⁵ C 11:376-7

²⁶ Hall (2017, 9). Kant himself notes the paradoxical character of this reasoning in fascicle IX, OP 22:205-06; 27

metaphysics,’ only shedding light on the material problem of density or discussing a historical definition of matter and force. For this reason, I think it is reasonable to provisionally divide the *Transition* along the lines of two interconnected tasks: one which tries to sketch a new special metaphysics (prompted by the circularity problem in *Metaphysical Foundations*), and one which develops an architectonic of the metaphysics of nature and physics, and their relation. The former can be tentatively identified by the extensive discussions of matter, force, cohesion and the infamous ether; the latter by discussions of the structure and meaning of metaphysics of nature, physics and their possible intervalence in the critical edifice.

Those familiar with the literature may be reminded here of the ‘two works’ thesis. The argument states that the text of *Opus postumum* is comprised of two works: one designed to tackle issues in *Metaphysical Foundations* and another dealing with issues of transcendental philosophy more generally.²⁷ The contention is that the early fascicles and certain parts of the later fascicles are a singular work, whilst the last fascicle (fascicle I) constitutes the beginning of a different work altogether. I would like to distinguish my thesis from this in that I do not claim that there are two works, one dealing with *Metaphysical Foundations* and one with transcendental philosophy. My thesis is that there are two sides – perhaps two parts – of a singular work, one with the task of reformulating special metaphysics, the other with the task of providing a methodological anchor to such a reformulation.²⁸

Focusing on the methodological task, I believe we can trace a critical problematization the *Transition* instigates on at least two fronts: (1) an assumed synthesis in *Critique of Pure Reason* and *Metaphysical Foundations*; and (2) the overlapping of metaphysics and physics.

²⁷ See Werkmeister (1975, 19) for an overview of the argument

²⁸ In other words, perhaps more speculatively, one side equates to a new Doctrine of Elements, the other to a new Doctrine of Method: ‘The progression (progressus) in cognition via science in general, starts by finding its elements and then connects them (*verknüpfen*) in an orderly interconnection (*zusammengeordnet*) (systematically). Then, the division of this enterprise into a doctrine of elements and a doctrine of method constitutes the supreme division of which the latter arranges the concepts presented by the former to found a scientific whole’ OP 21:386; 13 (t.m)

Correlated to each methodological front are two tacit moves Kant makes in the *Transition*: (1_a) the systematic division of metaphysics from physics; and (2_a) the systematic connection of metaphysics and physics into a unity.

Whether this suspicion can be proved will be the objective of this essay, but at the very least I aim to offer a different strand of interpretation from those found in the literature by opening the *Transition* to this reading.

2. Systematic Division: *Einteilung*

I will first provide a brief, contextual reading of Kant's methodological use of the term 'transition' in *Opus postumum*.

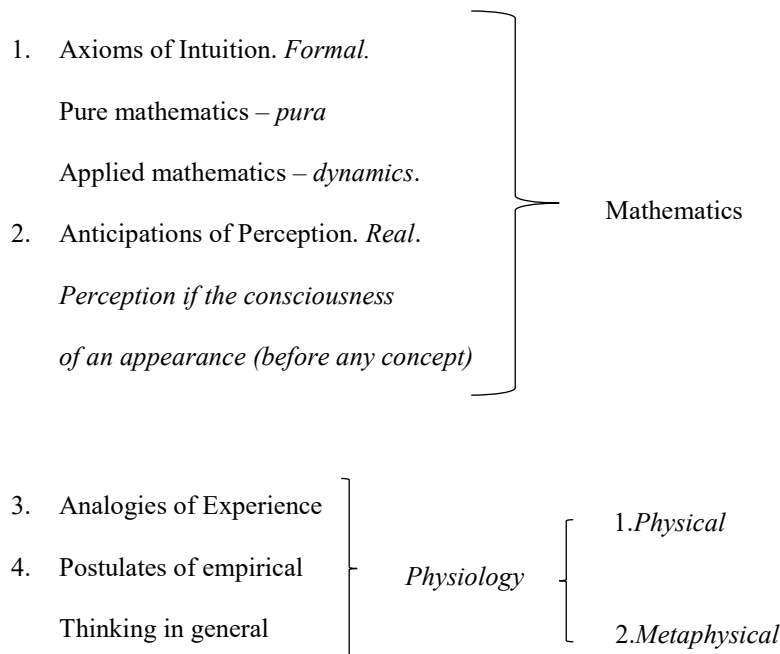
In fascicle IV Kant proclaims that 'the transition from metaphysics to physics cannot be satisfied immediately, by a leap,' but must instead proceed cautiously via a step.²⁹ We are given a key starting point here, which contributes to understanding how Kant divides metaphysics and physics: there is a decisive difference between a step (glossed in Latin as *passus*) and a leap (glossed in Latin as *saltus*).³⁰ The *Transition* must proceed without immediately skipping from one species of cognition to the other, or in other words, its role is to critically distinguish two elements, and devise a method for revolving from one to the other without assuming that a synthesis has already taken place.

I start by claiming that *Metaphysical Foundations* harbours exactly the type of assumption of synthesis (between the two types of metaphysics it delineates: special and transcendental) the *Transition* prohibits. But before we can understand and unpack exactly what this means in the wider context of the *Transition*, we must first unpick the source of this

²⁹ OP 21:482; 43

³⁰ OP 21:387; 13

assumption. In fact, we can find this right at the heart of the critical edifice. In his copy of the first edition of the first *Critique*³¹ Kant inserted this diagrammatic note in the centre-fold:



The heading ‘physiology’ is what I will discuss. What does this term mean for Kant?

In Carus’ translation of *Prolegomena to Any Future Metaphysics* the editor explains it succinctly: ‘Kant uses the term *physiological* in its etymological meaning as “pertaining to the science of physics,” that is, nature in general.’³² In the current age we understand the term ‘physiology’ as the study of biological functions of organisms, but Kant understood it as pertaining to the physical investigation of nature and its forces. In this regard, Kant’s understanding of the term ‘physiology’ mirrors our own contemporary understanding of the term ‘physics.’ Yet, as we can see in the diagrammatic note this would prove problematic, since Kant further divides physiology into a physical and metaphysical arm. This is a curious move and challenges the received notion that Kant had already instigated a divisive split and

³¹ CPR A161/B200nA

³² P 4:303n5. Coincidentally, the position of this note in *Prolegomena* conforms to the location of the diagrammatic note found in the first *Critique*: the ‘dynamical/physiological principles’ in the first *Critique*, or ‘physical principles’ in the *Prolegomena*

subsequent bridge between metaphysics and physics at this point in his career. Recall that some of Kant's earliest work deals with this exact problem, for example the *Physical Monadology* of 1756, which treats metaphysics and geometry (represented by Leibnizian-Wolffian monadology and Newtonian natural philosophy, respectively) as two very different poles in need of a bridge.³³ In particular, Kant is interested in the divisibility of space, where metaphysics denies the infinite divisibility of space, whilst geometry affirms it. Kant proceeds to carefully synthesize these two seemingly opposed elements – rephrased as an antinomy in Kant's later critical work – in a way which does not subordinate one to the other³⁴ but 'marries' them into a tenable framework. Thus, metaphysics is conceived of as the 'support' of physics, but nonetheless a separate discipline.³⁵ Must we say, then, that Kant modifies this stance in *Critique of Pure Reason* by dividing metaphysics, or metaphysical activities, and physiology, understood as physics, along different lines, whereby metaphysics appears subordinated to physics?

To stake an answer, let's first turn in more detail to the first *Critique*.

In the Architectonic of Pure Reason, Kant develops a schematic for the metaphysics of nature, placing physiology on one of its sides: 'Metaphysics in this narrower sense consists of *transcendental philosophy* and the *physiology* of pure reason.'³⁶ He explains that 'the latter [physiology of pure reason] considers *nature*, i.e., the sum total of *given* objects...and is therefore *physiology* (though only *rationalis*).'³⁷ Kant then says that 'Rational Physiology' 'contains two divisions, *physica rationalis* and *psychologia rationalis*.'³⁸ We can see, then, that

³³ PM 1:475

³⁴ 'it is neither the case that the geometer is mistaken nor that the opinion to be found among metaphysicians deviates from the truth.' PM 1:480

³⁵ PM 1:475

³⁶ CPR A845/B873

³⁷ CPR A845/B873

³⁸ CPR A846-7/B874-5

between the diagrammatic note quoted above and the Architectonic of Pure Reason a genetic transformation of the meaning of physiology has taken place.³⁹

In the diagrammatic note Kant starts by basing physiology on a fundamental empiricism (it stems from Analogies of Experience and Postulates of Empirical Thinking), branching it into a physical and a metaphysical role. What we can take from this is that physiology is open to the empirical and the metaphysical in equal measure but is fundamentally concerned with application in experience. As we can see, by the time we reach the Architectonic of Pure Reason, the openness of physiology has closed, as has its fundamental empirical concern. No longer is physiology concerned with application in experience, it now denotes a purely ‘rational’ (metaphysical, a priori) operation in that it studies the *totality* of given objects. What started as an empirically oriented activity in the diagrammatic note has genetically transformed into a purely rational activity in the Architectonic. With the empirical closed, Kant goes on to index *physica rationalis* in rational physiology; but does Kant mean to say that *physics* should be placed under the heading of a purely rational, that is metaphysical, a priori pursuit, a contention which is surely absurd by today’s definitions?

Physica rationalis occupied a central role in the scientific climate of the eighteenth century and it is certainly reflected in Kant’s understanding of physics. In the essay, ‘Kant on the Systematicity of Physics and the *Opus postumum*,’ Hein van den Berg provides a detailed historical account of what this term meant and how it affected Kant’s understanding of natural science. I shall first briefly draw out Berg’s analysis, then examine whether Kant’s conception conforms to this analysis in the first *Critique*, *Metaphysical Foundations* and the *Transition*.

³⁹ Kant’s understanding of physiology is multi-faceted and indeed transforms throughout his career – in his *Lectures on Anthropology*, for example, Kant discusses ‘medical physiology’ – for an engaging discussion of this see Hatfield (2014, 41-7). Here I will only concentrate on the transformation the term undergoes in the first *Critique* and *Metaphysical Foundations*.

Berg tells us that *physica rationalis*, as it was understood in eighteenth century physics textbooks, pertains to ‘universal properties or a universal doctrine of nature.’⁴⁰ It is a physics based on rational principles, which tries to describe phenomena synthetically proceeding from cause to effect.⁴¹ Essentially, it is the part of physics that deals with concepts, rather than observable and particular phenomena. For example, we can only observe natural forces as they affect objects, we cannot observe them directly as singular instances of force. For this reason, according to *physica rationalis*, to understand and probe natural forces we must construct a concept of them. Likewise, with the common problem of extension in continental philosophy: we cannot observe a singular instance of extension, we must construct a concept, which is general, to understand it.

Berg tells us that opposed to *physica rationalis* is *physica specialis* which is concerned with empirical phenomena and particular behaviours of objects observed in physical experiments. An example of this would be the study of ‘fluids in capillary tubes,’⁴² – a subject which interested Kant a great deal in *Opus postumum* – where a specific behaviour of liquid is observed and a fact derived. To extend this example a little further, such a fact looks like this, ‘The liquid wets the tube with an advancing contact angle of θ . If D is small and $\theta < 90^\circ$, then a concave meniscus forms inside the tube.’⁴³ This material fact remains mute with regard to universal principles; it only describes an effect observed under given conditions. No universal concept is necessitated since the experimental aspect of *physica specialis* keeps it firmly within the bounds of empirical investigation and phenomena.

Considering this historical context, we can begin to locate the weight, but also the profound problematic of *physica rationalis* and physiology in the Architectonic of Pure Reason in a fuller sense. Since *physica rationalis* is a pursuit involving general, or universal concepts

⁴⁰ Berg (2014, 158)

⁴¹ Berg (2014, 161)

⁴² Berg (2014, 162)

⁴³ Extrand (2015, 136)

in the scientific paradigm of the day, Kant pairs it with a priori cognition in his own system, whilst remaining cautious not to conflate it with mathematics: ‘One should not think, indeed, that I understand by [*physica rationalis*] what is commonly called *physica generalis*, which is more mathematics than philosophy of nature.’⁴⁴ Thus, *physica rationalis* is not mixed with empirical elements, yet is separate from mathematics, which seems to indicate that *physica rationalis* is a subordinate type of metaphysics, perhaps what we would call ‘theoretical physics’ today.

But, as mentioned above, there is still a schism between the diagrammatic note and the Architectonic in this regard, suggesting a kind of rogue entity in the critical edifice. What’s more, not only is there a genetic transformation, such a transformation makes it difficult to know exactly how Kant understands physics in the first *Critique*. Admittedly, he does try to rectify the problem in the Architectonic, stating, ‘The metaphysics of corporeal nature is called physics, but, since it is to contain only the principles of its *a priori* cognition, rational physics’,⁴⁵ and it is with this definition that we can bring the genetic transformation of physiology to an end in the first *Critique*. Although there should not be a problem with the transformation of terms – Kant’s whole oeuvre can be seen as a continual transformation, even – the problem with this case in particular, which we must assume did not entirely escape Kant’s attention, is that an empirical enterprise has trespassed into a priori territory ‘behind our backs,’ so to speak. I will now pass on to how this conflation complicates elements of *Metaphysical Foundations*.

The two branches of the metaphysics of nature set out in the Architectonic are discussed in the Preface of *Metaphysical Foundations*, but another transformation has apparently taken place. Now, Kant introduces the term ‘special metaphysics’ to denote the empirical concepts

⁴⁴ CPR A847/B875

⁴⁵ CPR A846/B874

of particular objects. That is to say, the two branches of metaphysics of nature are now re-defined as ‘transcendental’ and ‘special,’ rather than ‘transcendental’ and ‘physiological’. Under the banner of this new term, Kant says that it must,

concern itself with a particular nature of this or that kind of thing, for which an empirical concept is given, but still in such a manner that outside of what lies in this concept, no other empirical principle is used for its cognition...and here such a science must still always be called a metaphysics of nature, namely, of corporeal or of thinking nature. However, [in this second case] it is then not a general, but a *special* metaphysical natural science (physics or psychology).⁴⁶

We see, then, that the same description is given to account for corporeal nature in the Architectonic of Pure Reason and the Preface of *Metaphysical Foundations*, but the terms have changed. This could perhaps explain why the two poles of the metaphysics of nature seem to embody an assumption of synthesis in *Metaphysical Foundations*. Special metaphysics has emerged from a genetic transformation, first from an empirically understood physiology, then to a rational physiology (*physica rationalis*), which is a priori, and now to a disciplinary concept of metaphysics meant to delineate the a priori elements behind empirical concepts.⁴⁷ Taken by itself, special metaphysics is an innovative nuance to the critical edifice, one which is designed to provide foundations for Newtonian dynamics. However, when considered genetically as a line stemming from physiology, understood as physics, this suggests a conflation, or at least, an undecidability on Kant’s part. Between the first *Critique* and *Metaphysical Foundations*, the two terms of metaphysics of nature are not systematically

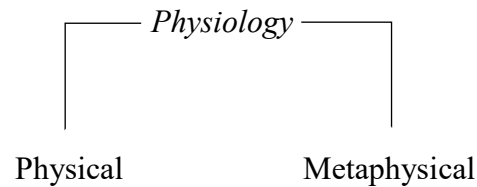
⁴⁶ MF 4:470

⁴⁷ See Westphal (1995, 49-52) for an engaging discussion of the continuity and subtle transformation of special metaphysics in *Metaphysical Foundations*

distinguished, meaning that Kant has made a leap. It may be helpful to chart this evolution in the following way:

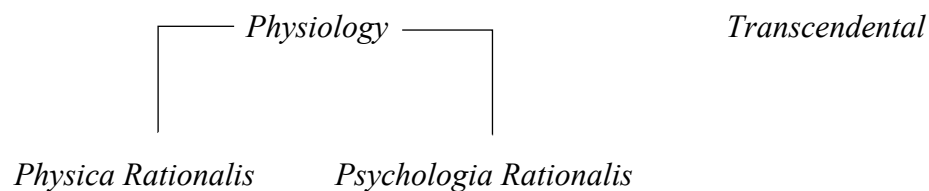
Diagrammatic Note:

EMPIRICAL



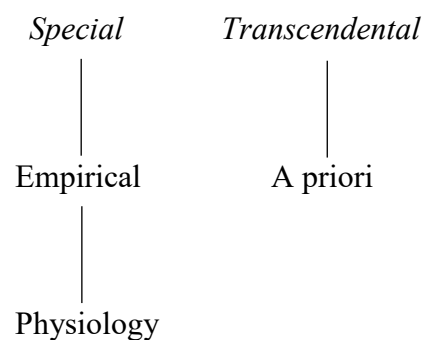
Architectonic:

METAPHYSICAL/A PRIORI



Metaphysical Foundations:

METAPHYSICS OF NATURE



Eighteenth Century Physics:

Physica Rationalis (Theoretical physics)

Physica Specialis (Experimental physics)

|

|

A priori

Empirical

Without suggesting that this is the definite location of the ‘gap’ (*Kluft*) in the critical edifice (a problem still not convincingly answered in Kant studies), I would simply like to ask: is this problem resolved in the *Transition*?

Returning to Berg, he argues that *physica rationalis* forms the ‘part of physics that is concerned with corporeal nature’⁴⁸ in *Opus postumum*. Considering the preceding, this seems a difficult assertion to justify, since it would mean that Kant carries over the entire problematic structure into the core of the *Transition*.⁴⁹ Even on a light skim, it is obvious that Kant does something utterly different in the *Transition*: he establishes a hard and fast – architectonic – line between metaphysics and physics. One example of this is in fascicle III: ‘The doctrine of the laws of the moving forces of matter, insofar as they are known *a priori*, is called metaphysics, insofar as they can only be derived from experience, physics.’⁵⁰ Thus, the *a priori* concepts of nature (the forces of matter) are aligned with metaphysics, whilst facts derived from experience of nature (via empirical experiment/research [*Naturforschung*]) are aligned with physics. In this regard, Kant goes much further in delineating metaphysics and physics than Berg suggests, tackling a much deeper problematic of division in the critical edifice.⁵¹

Kant also provides a decisive role for philosophy:

⁴⁸ Berg (2014, 157)

⁴⁹ Kant also seems to hint at this argument: ‘There is still, however, in these *Foundations of Natural Science*, a tendency toward physics, i.e. to a system of the moving forces of matter which must be taken from experience, and whose investigation (*indagatio, perscrutatio naturae*), as a system of these forces, is called physics. This is a doctrine of motion from *empirical* principles which must be [ordered] in a system of perceptions and, hence, formally subordinated to certain *a priori* principles.’ OP 22:189-90; 51

Compare with: ‘In the transition from the metaphysical foundations of natural science to physics it is necessary to abstract from everything which rests on empirical principles, for, otherwise, this would amount to a transgression of foreign territory (by *μετάβασιν εἰς ἄλλο γένος*).’ OP 22:200; 54. The Greek quotation reads: ‘Transition into a different sphere’, which is generally understood as a ‘category mistake’ in today’s language. See Förster’s editorial note in OP (264, n40).

⁵⁰ OP 21:310; 25. Also see: OP 21:402; 21:407; 18; 21:474; 39; 21:476; 40; 21:524; 36; 22:200; 54; and 22:240; 56

⁵¹ Also see Ducheyne (2011, 6) wherein he locates the importance of delineating metaphysics and physics in Kant’s later career. My problem with Ducheyne’s reading is that he does not give this division its due weight nor recognises its genetic transformation from the first *Critique* to *Metaphysical Foundations*

These two territories (metaphysics of nature and physics) do not immediately interconnect; and, hence, one cannot cross from one to the other simply by putting one foot in front of the other. Rather, there exists a gap between the two, over which philosophy must build a bridge in order to reach the opposite bank.⁵²

And,

Between metaphysics and physics there still exists a wide gap (*hiatus in systemato*) across which the transition cannot be a step but requires a bridge of intermediate concepts (*Zwischenbegriffen*) which make a distinctive structure. A system can never be constructed out of merely empirical concepts.⁵³

The subsequent architectonic nuance of the *Transition* is seen in microcosmic form in these quotations. Metaphysics and physics are now two entirely divided ‘territories,’ that are not connected in any way, nor synthesized in any natural sense, instead their systematic division is the primary philosophical function of the *Transition*. Only when this has been achieved can we proceed to labour over their unison.

Far from merely describing a passage, then, the *Transition* first contains a methodology of division. The principle from which Kant motivates the division is binary alignment: metaphysics aligns with a priori cognition; physics aligns with empirical cognition. It is at this precise point in the *Transition* that a systematic division has been made. This, in turn, forms a new architectonic branch: the metaphysics of nature is strictly transcendental and a priori, and stands in opposition to physics, which is strictly special and empirical. Within this division there are many lines Kant throws out in the *Transition*, specifically those reformulating the

⁵² OP 21:475; 39 (t.m)

⁵³ OP 21:476; 40 (t.m) I explore the notion of intermediary concepts (*Mittelbegriffe*) at the end of the next section

contents of *Metaphysical Foundations* – e.g. the a priori coordinates of cohesion, or the re-description of density of matter – but they are fundamentally indexed in the architectonic elements of *Transition*, which is to say, as developments in the unique disciplinary space the transition opens. In this connection, the transition is now to be thought of as a completely separate disciplinary field: ‘the concept of a transition is a concept given *a priori* in the doctrine of elements of the science of nature in general, and demands a special discipline of its own.’⁵⁴ As I have stated above, it is not my intention to explore these lines here since they would require us to go into the side of *Transition* dealing with the reformulation of *Metaphysical Foundations*, I hope simply to indicate how this reformulation falls under wider methodological auspices.

As far as this essay is concerned, then, the remaining methodological question of the *Transition* concerns systematic unity.

3. Systematic Unity: *Einheit*

As can be ascertained from the preceding discussion, in *Opus postumum* we are not merely presented with a pre-established unity of metaphysics and physics, nor do we encounter a description of the passage from one to the other, instead we join Kant *in the process* of dividing them and unifying them philosophically. This owes much to the fact that *Opus postumum* is an unfinished work, but more importantly, it indicates that ‘reading’ the latter – systematic unity – in the *Transition* requires reconstructing it by tapping into the creative impulse of Kant’s project, rather than following it step by step, as mentioned in the introduction. Only then can we see how Kant prepares the ground for the unification of metaphysics and physics, and what light this sheds on the terms more generally. Furthermore, it is only through reconstruction that we may find a unique pathway from the first *Critique* to *Transition* on the notion of unity.

⁵⁴ OP 21:525; 36 (t.m)

In fascicle IV Kant says, ‘Merely empirical science of nature can never amount to a system, but, at best, a fragmentary, always-increasing aggregate’;⁵⁵ and he later continues,

The metaphysical foundations have a tendency toward physics as a system of the moving forces of matter. Such a system cannot arise from mere experiences, for that would yield only aggregates which lack the completeness of a whole; nor can it come about solely *a priori*, for that would be metaphysical foundations, which, however, contained no moving forces.⁵⁶

The lexicon Kant uses in these two quotations is consistent throughout *Opus postumum*. He repeatedly uses terms such as ‘aggregate’ and ‘fragment’ to denote physics as an empirical activity. In the marginalia of fascicle II, Kant is particularly direct: ‘The empirical is a fragmentary aggregate, and belongs to physics. Only metaphysics creates the form of the whole.’⁵⁷ Thus, the schema seems clear: empirical science can only produce aggregates, which lack the requirements needed to form a coherent totality or system.

On the face of it, such a conception seems to rest on the critical notion of regulative ideas of reason as developed in the Appendix to the Transcendental Dialectic of the first *Critique*. So, can we explain Kant’s concept of an aggregate in the *Transition* simply by reading the Appendix to the Transcendental Dialectic?

In the Appendix, Kant shows how ideas of reason work on cognitions given by the understanding to bring about their systematic ‘interconnection’ (*Zusammenhang*).⁵⁸ Kant says, ‘this idea postulates complete unity of the understanding’s cognition, through which this cognition comes to be not merely a contingent aggregate but a system interconnected in accordance with necessary laws.’⁵⁹ Yet, if we are to avoid dialectical error, the ideas cannot be

⁵⁵ OP 21:474; 39 (t.m)

⁵⁶ OP 21:478; 42

⁵⁷ OP 21:183; 59

⁵⁸ CPR A645/B673

⁵⁹ CPR A645/B673

considered ‘constitutive,’ – they do not and cannot constitute a totality itself – but rather serve as ‘regulative’ guidelines in the projective formation of totality. In other words, no matter how much reason demands totality, it exceeds the possibility of experience and so we can only consider the idea a guideline if we are to remain undogmatic.⁶⁰

Kant also gives an example in the Appendix, which is illuminating in the current context. He pictures a scenario wherein many different effects are attributed to a ‘manifold of powers,’ but he suggests that these can be brought under a unified heading, entitled ‘fundamental power.’⁶¹ The more equations of one power with another under the heading of fundamental power, the more a unity is said to be achieved. But, as Kant explains, ‘this unity of reason is merely hypothetical. One asserts not that such a power must in fact be found, but rather that one must seek it for the benefit of reason, namely for setting up certain principles for the many rules with which experience may furnish us.’⁶² Fundamental power can only be a regulative, heuristic idea of reason, which indicates what the problem is and keeps open the pathway to constructing a totality, but is not a true unity itself.

In a compelling essay entitled, ‘Brain Water, the Ether and the Art of Constructing Systems,’ Alexander Rueger claims that for Kant, the systematicity of natural science as it emerges in the *Transition* is also regulative in the way outlined above.⁶³ It must be admitted that Kant does seem sceptical about physics attaining constitutive systematic unity on its own terms since it is aligned entirely with the empirical. As the quote from fascicle IV suggests, it can only achieve an ‘ever-increasing aggregate’ and in this connection it seems logical, to any well-versed Kantian, to claim that physics rests upon a regulative idea of totality, that is, it requires an inherently metaphysical foundation to achieve unity.

⁶⁰ Maimon puts it well: ‘For Kant, ideas are principles of reason that by their nature demand the unconditioned for every conditioned.’ Maimon (2010, 226)

⁶¹ CPR A649/B677

⁶² CPR A649-50/B677-8

⁶³ Rueger (2009, 34)

Such a reading also has the benefit of being quite easy to give a contemporary correlative. For example, it seems obvious that if we take a material fact, e.g., about the rotation of a particle, and stay within the bounds of the discipline it emerged from, e.g., particle physics, we could not go beyond the regulative totality that the original discipline tries to achieve, e.g., the completion of the standard model. Accordingly, we could not construct a constitutive totality, e.g., a grand theory of everything, which would need a wider connection to other paradigms, for example, cosmology or astronomy. Instead, the fact about the rotation of a particle would cumulatively add to the discipline of particle physics alone, leaving us with what Thomas S. Kuhn calls ‘*mere facts*,’ that is, isolated elements of knowledge, which are ‘unrelated and unrelatable’ to wider research projects.⁶⁴

Although useful, this analysis cannot be accepted as Kant’s view in the *Transition*, for he explicitly states – and confirms an argument against Rueger’s – in fascicle IX: ‘There is a not merely regulative, but also constitutive formal *a priori* principle of the science of nature, for the purpose of a system.’⁶⁵ In other words, in the case of physics, systematic unity must be something more than, and prior to regulative ideas; it must have a constitutive base inherently bound up with its practice. Kant goes on to problematize this reading even more, where in the same fascicle he notes, ‘Regulative principles which are also constitutive.’⁶⁶ We find a similar contention in the introductory remarks of *Physical Geography*, published in 1802: ‘for in a system the *whole* is prior to the parts, while in an aggregation the *parts* have priority.’⁶⁷ The priority of the whole means it has a constitutive base, a totality which goes well beyond a regulative collection of parts. Accordingly, Kant prompts us to go further than the Appendix to the Transcendental Dialectic to grasp a more subtle, complex and problematic notion of systematic unity in the *Transition*.

⁶⁴ Kuhn (2012, 35)

⁶⁵ OP 22:240; 56 (t.m)

⁶⁶ OP 22:241; 57

⁶⁷ PG 9:158

I would like to bring out another aspect of the preceding discussion. It is clear that there is a difference between the act of fact gathering and the act of sewing them into a meaningful totality. In the *Transition*, Kant anticipates that this difference cannot be avoided in natural science. One striking example is given in fascicle XI, where Kant says, ‘It is not by *compilation*, but according to a principle of connection of the moving forces of matter in a system...that can yield an *a priori* cognition of the object.’⁶⁸ Stephen Howard points out that the word ‘*stoppelung*’ is translated into ‘compilation’ in the English translation of *Opus postumum*.⁶⁹ This has the effect of rendering the act of ‘gleaning’ quite insignificant, but it is a vastly important definition in the *Transition*. Accordingly, Howard modifies the translation to ‘scrabbling-together,’ which I think conveys Kant’s intention more effectively, despite its apparent clumsiness. When we fit this modification into the general thesis of the *Transition* where it is concerned with aggregates, it would read: instead of scrabbling-together isolated empirical facts, we must find the principle of their connection to form a system out of them.

The importance of a principle of connection is a consistent thread throughout Kant’s work. Even in notes to his *Lectures on Metaphysics* from the mid 1770’s, for example, the claim is made that, ‘in every whole there are connections (*Verknüpfung*) and there are connections (*Zusammenhang*).’⁷⁰ In English this sentence clearly loses its potency, but in German we see the difference between ‘*eine Verknüpfung*’ and ‘*ein Zusammenhang*.’ As we saw above in the Appendix to the Transcendental Dialectic, *Zusammenhang* was translated as ‘interconnection,’ and that seems applicable here also; the author of the notes goes on to question, ‘But how is an *interaction* in a whole even possible?...for where there is an aggregate of substances there is not yet a world, rather the *interaction* of substances first constitutes a

⁶⁸ OP 22:509; 150 (italics added)

⁶⁹ Howard (2017, 214)

⁷⁰ LM 28:212

world.’⁷¹ Likewise, a principle of *Zusammenhang* or interconnection is exactly what Kant seeks in the *Transition*, otherwise physics will remain fragmentary, aggregated and regulative. But herein lies Kant’s enormous, seemingly impossible task: what would such a principle consist of?

We have so far seen how Kant encounters a problem when constructing a system based on physics alone. To answer the question just stated, it is tempting to resort to a metaphysical, a priori principle to provide such an interconnection. This certainly seems the case in the first *Critique* and *Metaphysical Foundations* as well as in some key passages in *Opus postumum* and would garner an initial base for tying the *Transition* into the critical edifice more comprehensively. One example is in fascicle X, where Kant says,

To empirically take hold of the moving forces of matter and to collect them fragmentarily cannot ground physics as a science. Rather, it must be capable of being erected as a whole – not as an aggregate (*sparism*) but as a system (*coniunctim*) – according to an *a priori* principle which determines the number and order of the moving forces.⁷²

This suggests that an a priori principle is responsible for the arrangement of physics and is the key to its systematicity or interconnection. Echoing the operation of the categories in the first *Critique*, such a principle would determine the different empirical species of forces and their order, but would itself be based on total a priori derivation. The problem with this reading is that the *Transition* would then only sketch out a passage from one a priori cognition (the moving forces of matter) to another a priori cognition (the systematic unity of these forces),

⁷¹ LM 28:212. (italics added) An unlikely echo of this definition is found in Markus Gabriel’s realist manifesto, *Why the World does not Exist*, when he states, ‘When I say that the answer must be “systematic,” I mean only that we employ considerations in which the principles and thought trains that we establish and justify are connected with one another and make up a single body of thought, a theory.’ Gabriel (2015, 51)

⁷² OP 22:322; 108 (t.m)

rather than the more radical thesis Kant actually strives for, namely, that it steps from a priori to empirical operations.

Kant also bluntly proclaims that we cannot form a systematic unity based on a priori principles alone in the block quotation from fascicle IV that opened this section: ‘nor can it come about solely *a priori*.’ In illustration, and returning to the example above, if we only speculate about rotating particles a priori, we could not provide an adequate ‘frame of reference’ for empirical investigation and measurement to take place. It would be like using the *Metaphysical Foundations* as a map for locating and explaining geological markers, such as lashes in rock or scars on the ocean floor. We would fall upon an aggregate of universalizing principles, which would be at best unreliable, at worst in serious dialectical error and fundamentally regulative. Moreover, the two sides would be no closer to unification; the ‘gap’ would remain. Kant seems fully aware of this danger in the *Transition* and accordingly instigates a tortuous, critical trajectory to avoid constructing a notion of systematic unity and interconnection on the back of metaphysics alone.

Instead, in the *Transition* at least, a system must comprise equal (albeit different) empirical and a priori parts: ‘For those concepts, which lead across from a system of one sort [metaphysical foundations] to another [physics], must be accompanied by empirical principles as well as *a priori* principles.’⁷³ That is, the concepts that are formulated between metaphysics and physics, as a part of the transition from the one to the other, are ‘*Mittelbegriffe*,’ ‘*Zwischenbegriffe*’ or ‘intermediary concepts’: ‘The transition from one science to the other must have certain intermediary concepts (*Zwischenbegriffe*), which are given in the one and are applied in the other, and which thus belong to both territories alike.’⁷⁴ The methodological import of this figuration is that the *Transition* uses architectonic elements, not merely to *present*

⁷³ OP 21:482; 43 (t.m) and see OP 22:375-6

⁷⁴ OP 21:525; 37

a system, but to devise a unique type of concept, whose content is shared, to allow for a flow between the two disciplines and systematic unity (*Zusammenhang*, interconnection) to be achieved. In this regard, the architectonic elements found in the *Transition* constitute a kind of building-site, rather than a complete description, wherein the transition takes place via concepts whose content can be considered both regulative *and* constitutive, a priori *and* empirical, metaphysical *and* physical.⁷⁵ Such a building-site is constantly evolving in its experimental construction and synthesis of concepts; disciplines divide and coalesce, and concepts are smashed together to form intermediary concepts halfway between metaphysics and physics. It is a work-in-progress, which allows for interconnections (*Zusammenhänge*) to emerge, but ultimately, it is a messy methodological site upon which Kant tries out various configurations.

But residual questions remain. One such question is: does the *Transition* enact systematic unity of metaphysics and physics through the intermediary concepts? I do not think they enact systematic unity on their own, but I do think they highlight a key path for creating such a unity. The more intermediary concepts are developed, the more they draw the disciplines closer together into a unified site. The intermediary concepts imply, however, a changed concept of unity: instead of a static unification, Kant wants to institute a fluid, evolving – yet still systematic – interconnection (*Zusammenhang*). Hence, we can say that this is Kant's attempt to theorize a space that allows for interconnected a priori and empirical dimensions for the purposes of unifying metaphysics and physics. This prompts a further question: in so far as the intermediary concepts play a crucial role in setting up this interconnection, does this constitute Kant's final attempt at systematic unity? As methodological markers, intermediary concepts certainly act as one of Kant's last formulations to bring about systematic unity, but we must remember that the fascicles where they arise are written around 1798, and Kant writes

⁷⁵ Hoppe (1969, 84-5) has also suggested this: 'The intermediary concepts (*Mittelbegriffe*) thus uniquely connect the empirical and a priori; they realize the a priori concept of the object, but simultaneously they objectify the empirically given.' (m.t)

much more after that point. Hansgeorg Hoppe even suggests the ‘hint’ that the transition itself – and hence the attempt at systematic unity of metaphysics and physics proper – may actually be found in fascicles X and XI,⁷⁶ written around 1799-1800, wherein Kant starts from the conditions of possibility of scientific experiment. The question as to Kant’s last attempt of systematic unity remains open and prompts further *Opus postumum* study to explore the varying answers available to us, depending on which fascicles we take into account.

4. Architectonic of *Transition*, Transition of Architectonic

In this last section I would like to open the preceding to a more general perspective concerning the relation between *Transition* and the critical edifice. My contention is that by leading up to the *Transition* as a type of methodological building-site upon which metaphysics and physics are systematically divided and then united through intermediary concepts (*Mittelbegriffe*, *Zwischenbegriffe*), we must change how we understand the Architectonic of Pure Reason. That is, if we work retroactively, reading the methodological dimension of *Transition* as a frame for understanding the Architectonic of Pure Reason, we find a radical modification of the latter.

Recall that the basic stance of the Architectonic of Pure Reason is that of unification and ‘the art of systems,’⁷⁷ which occurs by transforming aggregates into a unity. And such systems are ‘formed, like maggots, by a *generatio aequivoca*, [spontaneous generation] from the mere confluence of aggregated concepts’.⁷⁸ In short, there is a contingency to the formation of systems from aggregates; parts just so happen to be worked into more complete and unified constructs or disciplines through spontaneous generation and collection.⁷⁹ Furthermore, there

⁷⁶ Hoppe (1969, 117)

⁷⁷ CPR A832/B860

⁷⁸ CPR A835/B863

⁷⁹ I described it on p.24 as ‘fact gathering’ with reference to Howard’s ‘scrabbling-together.’

is a ‘natural unity of the parts that have been brought together,’⁸⁰ and each distinct discipline of pure reason is marked by such a natural unity.

We do not have to make too many assumptions – in light of the exegetical sections of this essay – to claim that a very different model of architectonic is at stake in *Transition*. In the latter work, where its architectonic side is discerned, there is no natural, spontaneous unity or natural formation of aggregates into wholes (*Ganze*). Rather, there is rigorous division along clear and hence *artificially* drawn lines. There is then a considerable labour over developing a method for unifying this division. As I indicated in the previous section, the usage of architectonic then becomes a type of building-site upon which metaphysics and physics interconnect, albeit with significant residual problems. When we go back to the Architectonic of Pure Reason with this trajectory in hand, a rigidity can be discerned, whereby disciplines are delineated without any chance of transitioning, let alone sharing concepts (*Mittelbegriffe*, *Zwischenbegriffe*). In short, we see clearer than ever a Kant who is a true disciple of Linnaeus in the Architectonic of Pure Reason and a Kant who has an Anaxagorean quality in *Transition*.

In this connection, no longer can we read the Architectonic as a thorough critical thesis concerning the divisions and natural unifications of metaphysics and physics, nor can we consider it Kant’s final say on the matter. Rather, we are prompted to subtract certain of its elements and place them into the more experimental terms of *Transition*. For example, the whole system of metaphysics (‘1. Ontology. 2. Rational Physiology. 3. Rational Cosmology. 4. Rational Theology’)⁸¹ makes no sense according to the architectonic of *Transition*, since we have a confused term, ‘Rational Physiology,’ which Kant notes has *physica rationalis* within it as a subordinated type of metaphysics. This problem does not arise in *Transition* since Kant is working with a binary opposition between metaphysics and physics, *trying to construct the*

⁸⁰ CPR A834/B862

⁸¹ CPR A846/B874

point at which they interconnect rather than assuming it. And here is where we find the greatest transformation of the Architectonic of Pure Reason: we are forced to read it as containing a huge leap between disciplines without explanation as to *how* such a leap is made across supposed rigid lines.

With this in mind, we could say that along with architectonic in the *Transition*, we also find a tacit transition of the Architectonic in the *Transition*. No longer can we consider it the art of systems, but the art of shared concepts (*Mittelbegriffe*, *Zwischenbegriffe*), the art of interconnection and the art of breaking down previously assumed unities. The architectonic elements in *Transition* open problematizations of the critical edifice, but they also hint at how we could creatively redefine these areas of problematization. I can envisage reading the whole Doctrine of Method a-new in this way – although I cannot provide such a reading in the space I have here – and it is the *Transition* which gives us the creative impulse to do so.

Further, the implications this has on understanding other parts of the critical edifice may be great. Such divisions as sensibility and understanding, intuition and concept, and most importantly, a priori and empirical cognition may have to be radically re-examined and redrawn in light of the architectonic of *Transition*.⁸² Herein we have gained a deeper picture of a thinker who is prepared to question and re-question his own supposedly firm critical distinctions from the ground up. The *Transition* shows us that Kant did not arrive at his concepts ready-made, but laboured over their meaning, distinctiveness, unity and development relentlessly, subjecting them to endless scrutiny and reformulation. And this is the stance that we are also asked to adopt in reading *Transition*: to modify, adapt and transform basic tenets of the critical edifice from the ground up. There is, perhaps, more work to be done than we first anticipated.

⁸² This, for example, is Tuschling's conclusion when he claims, 'Thus the entire systematic of the first *Critique* and, in particular, the relations between Aesthetic, Analytic, and Dialectic are put into question...A priori and empirical knowledge can no longer be strictly separated.' Tuschling (1989, 208-9)

Works Cited

- Baumgarten, Alexander. 2017. *Metaphysics: A Critical Translation with Kant's Elucidations, Selected Notes, and Related Materials*, trans. Courtney D. Fugate and John Hymers. London: Bloomsbury Publishing
- Berg, Hein van den. 2014. *Kant on Proper Science: Biology in the Critical Philosophy and*

- the Opus postumum*. Netherlands: Springer
- Caygill, Howard. 2007. 'The Transition Problem in Kant's *Opus postumum*'. In *Kant: Making Reason Intuitive*, ed. Loli Patellis, Kyriaki Goudeli, Pavlos Kontos, 16-27. Basingstoke: Palgrave Macmillan
- Ducheyne, Steffen. 2011. Kant and Whewell on Bridging Principles between Metaphysics and Science. *Kant-Studien* 102, no. 1: 22-45
- Extrand, C.W. 2015. Forces, Pressures and Energies Associated with Liquid Rising in Nonuniform Capillary Tubes. *Journal of Colloid and Interface Science* 450: 135-140
- Förster, Eckhart. 2000. *Kant's Final Synthesis: An Essay on the Opus postumum*. Cambridge, MA: Harvard University Press
- Friedman, Michael. 1994. *Kant and the Exact Sciences*. Cambridge, MA: Harvard University Press
- Friedman, Michael. 2015. *Kant's Construction of Nature: A Reading of the Metaphysical Foundations of Natural Science*. Cambridge: Cambridge University Press
- Gabriel, Markus. 2015. *Why the World does not Exist*, trans. Gregory Moss. Cambridge: Polity
- Hall, Bryan Wesley. 2017. *The Post-Critical Kant: Understanding the Critical Philosophy Through the Opus postumum*. Oxon: Routledge
- Hatfield, Gary. 2014. 'Kant on the Phenomenology of Touch and Vision'. In *Kant's Lectures on Anthropology: A Critical Guide*, ed. Alix Cohen, 38-57. Cambridge: Cambridge University Press
- Hoppe, Hansgeorg. 1969. *Kants Theorie der Physik: Eine Untersuchung über das Opus postumum von Kant*. Frankfurt: Vittorio Klostermann
- Howard, Stephen. 2017. Kant and Force: Dynamics, Natural Science and Transcendental Philosophy. PhD diss., Kingston University, London

- Kant, Immanuel. 1998. *Opus postumum*, trans. Eckart Förster, Michael Rosen. Cambridge: Cambridge University Press
- Kuhn, Thomas S. 2012. *The Structure of Scientific Revolutions*. Chicago: Chicago University Press
- Maimon, Salomon. 2010. *Essay on Transcendental Philosophy*, trans. Nick Midgley, Henry Somers-Hall, Alistair Welchman, Merten Reglitz. London: Continuum Publishing
- Rueger, Alexander. 2009. 'Brain Water, the Ether, and the Art of Constructing Systems'. *Kant-Studien* 86, no. 1: 26-40
- Thorndike, Oliver. 2018. *Kant's Transition Project and Late Philosophy: Connecting the Opus postumum and Metaphysics of Morals*. London: Bloomsbury Academic
- Tuschling, Burkhard. 1989. 'Apperception and Ether: On the Idea of a Transcendental Deduction of Matter in Kant's *Opus postumum*'. In *Kant's Transcendental Deductions: The Three 'Critiques' and the 'Opus postumum'*, ed. Eckart Förster, 193-217. California: Stanford University Press
- Tuschling, Burkhard. 1971. *Metaphysische und Transzendente Dynamik in Kants Opus postumum*. Berlin: Walter de Gruyter
- Werkmeister, William. 1975. Kant's Conception of "The Highest Form of Transcendental Philosophy". *The Southwestern Journal of Philosophy* 6, no.3: 19-27
- Westphal, Kenneth R. 1995. Does Kant's *Metaphysical Foundations of Natural Science* Fill a Gap in the *Critique of Pure Reason*? *Synthese* 103, no. 1: 43-86
- Žižek, Slavoj. 2012. *Organs without Bodies. On Deleuze and Consequences*. London: Routledge